

RESEARCH PROBLEM STATEMENT #TS-606

I – Problem Title

Evaluate the causes of pedestrian and bicyclist traffic fatalities and injuries, and establish appropriate countermeasures for use in California.

II – Research Problem Description

Nationally, there has been significant new research conducted on pedestrian traffic fatality causes and countermeasures. The literature on bicycle safety is considerably less well developed and, will require more effort to address in a comprehensive manner, perhaps using international resources. Where existing research is incomplete, the necessary research must be described and, in some cases, small-scale original research may be required. In order to develop an effective pedestrian and bicyclist safety program in California, both the existing research and small-scale original research conducted during this project will have to be conducted, compiled, evaluated, and presented in proper formats for consideration and possible use by Caltrans and other California agencies.

III – Objective

The research outcome from this project will be the development of pedestrian and bicyclist safety program guidelines, consistent with California policies and procedures. These guidelines will address not only engineering solutions, but also education and enforcement countermeasures.

IV – Background

Pedestrian and bicycle fatalities comprise about 13% of the total national traffic fatalities; in California, the figure is much higher, approximately 20%. The California legislature has adopted the California Blueprint for Bicycling and Walking (2002), which establishes a goal of a 50% reduction in non-motorized fatality rates by the year 2010. New Federal highway legislation (SAFETEA-LU) requires states to provide highway safety improvements at locations hazardous to pedestrians and bicyclists. States are also required to address behavioral problems related to pedestrian and bicyclist safety.

V – Estimate of Duration of Research

The research would take approximately two years to complete.

VI -Statement of Urgency, Benefits, and Expected Return on Investment

This research will accelerate the development of a research-based pedestrian/bicycle safety program in California, potentially saving hundreds of lives and preventing thousands of injuries annually. The return on investment, based on preliminary estimates of project costs and standard fatality and injury costs, is on the order of 10 (a ten-to-one benefit-cost ratio).

VII – Related Research

Recent research includes:

- How To Develop a Pedestrian Safety Action Plan, Federal Highway Administration (Draft, August 2005).
- PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System, Federal Highway Administration (September, 2004).
- NCHRP Report 500, Volume 10: A Guide for Reducing Collisions Involving Pedestrians, National Cooperative Highway Research Program (2004).
- Pedestrian Safety Guidelines, City of Sacramento Department of Public Works (adopted by City Council January 9, 2003).
- Design and Safety of Pedestrian Facilities, Institute of Transportation Engineers (March, 1998).

VIII - Deployment Potential

A successful project will accelerate the development of pedestrian and bicyclist safety program guidelines, consistent with California policies and procedures, providing the basis of a non-motorized safety program. Such a program could save hundreds of lives and prevent thousands of injuries each year.

Potential Customers:

- Caltrans and local agency traffic engineers
- CHP and local law enforcement safety specialists
- DHS and other health and injury prevention professionals
- California Walks and other pedestrian advocacy groups
- California Bicycle Coalition and other bicyclist advocacy groups
- California Coalition of the Blind and other access advocacy groups
- AAA affiliates, and other driver safety advocacy groups